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ABSTRACT

A problem of teacher education is to successfully integrate the knowledge students learn in the college classroom with the practical experiences of student teaching. A principal objective of an ideal teacher training situation would be to establish a vertical integration of the various types of exposure to reading both prior to and during contact in classrooms with children learning how to read. An integrated time frame competency development model includes elements of information, skill development, and application. The model must be evaluated to determine its construct validity and internal consistency. Validation of the competencies required of preservice teachers is important. Studies of teacher behavior have not been consistent. The trend is to define teaching competencies in reading in terms of pupil performance in reading. An approach to the validation problems of a competency-based preservice reading education program being developed at Northwestern University consists of nine points concerning competency categories as hypotheses which must be exhaustively analyzed. (MKM)

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THE PROBLEMS OF VALIDATION IN A COMPETENCY-BASED PRESERVICE READING EDUCATION PROGRAM

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A fairly well accepted maxim in the education of teachers is that they must have exposure to both the resources of the college or university campus and exposure to real life experiences in a classroom. However, it seems that one of the things we do in teacher education with only moderate degrees of success is to integrate successfully those things which happen to our students under our direct tutelage and those experiences which constitute a major part of their education when they reach the classroom and suffer the pangs and problems of day to day teaching experience.

An ideal teacher training situation would certainly have as a principal objective to establish some sort of vertical integration of the various types of exposure to reading both prior to and during actual contact with children in classrooms learning how to read. Let us for the moment examine if you will an example of this type of problem dealt with from the point of view of a competency specification program design. If our objective at a given time is to prepare our students for the almost certain eventuality of a reading instruction situation where language differences are a potential threat to the student's

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success, then we can say by extension that our reading teachers in training will need (among other things) specific auditory recognition and identification skills for use in listening to the children read. We would wish that our students would acquire these specific skills so as not to penalize their students from ignorance or from miscuing to the child's language patterns. In addition, we would hope that our students would be able to use such auditory skills as a basis for reordering the teaching situation and organizing certain instructional procedures where they seem to be warranted.

The most common solution to this problem and the need to develop a relatively specific set of auditory recognition and identification skills is to expose the students to several of the concepts of language differences, interference phenomena, and a number of the proposed solutions to this problem in a one quarter or one semester methods course. Following the course at some distant point in the student's experience, we may place the student in an internship or other long term teaching situation under the supervision of an experienced reading teacher. A second alternative would be to follow this same intellectually oriented methods course with certain short range trial teaching or training sequences in school settings. A third, but less likely, alternative would be to have the student engage in a field study of language varieties following the pattern of anthropological field studies.

One of the more recent developments coming out of modular and/or competency-based teacher education programs attempts to deal with a series of vertically integrated strands of instruction, each of which encompasses the levels of learning which are usually called (1) knowledge or information, (2) skill development or practice and (3) direct application of skills in classroom settings. Under this kind of analysis the language example discussed above would be separated into the elements of (1) the study of language differences as treated in the literature on reading instruction and through lecture presentations, (2) exercises for the practice of the necessary auditory recognition and identification skills and (3) applications of those skills in classroom settings where children exhibit language variations of the type that have been studied.

It may appear that we are at this point discussing specific competencies which contribute (or may contribute) to the successful performance of reading teachers. In actuality we are quite some distance in our analysis from being specific enough to answer some of the critical questions relating to the instructional needs of the students in our hypothetical situation. First we must ask the question what information background is actually needed? In our example of the language difference problem we might say that the general information needed by a preservice teacher of reading could include

(1) the phonological or morphophonemic characteristics of the specific language systems in English, (2) information about the characteristics and tactics system of different English language varieties, (3) information on the social-political-interpersonal, etc. elements of the context of language varieties.

This listing is by no means exhaustive and merely serves to indicate the range of topics which might be considered relevant given different instructional situations and settings. We must also answer the question of how to provide the information we have thus decided as being necessary and capable of communication to our students. The most common means of presentation are through lectures, readings and literature with less frequent use of exploratory studies, field work, simulations, etc. Each of these modes of presenting information, however, risk mixing the rather discrete skills (for example, the above-mentioned auditory skills) into a combination which achieves certain ideals of organization for intellectually oriented presentations. However, in such situations the specific discrete skill may be buried and rather difficult to resurrect when it is needed in later stages of this vertically integrated model which is currently under discussion.

Assuming for the present, however, that we have somehow developed the informational resources necessary for a prospective reading teacher to cope with language varieties, how

then do we help them develop the skills needed to approach these problems in more realistic settings? Suppose that the specific auditory skill involved is that which is involved in distinguishing between the names of two very common objects, (1) the device for making ink marks on paper (pen), and (2) the name for a device used to attach two pieces of fabric or paper by means of pierced holes (pin), also assuming that this discrimination is not made normally in the student's oral language patterns (a fairly common occurrence in certain sections of the United States). So our skill objective would be to develop the acuity of the individual preservice reading teacher to the point where he or she could consistently discriminate between two similar items and in a converse fashion produce both of them in appropriate contexts so that speakers of English from other geographic sections of the United States can uniformly distinguish the students' use of the two items one from the other.

We would usually tend to provide for such skill development through the traditional means of exposing the student to a natural setting (classroom) and through the process of contact with speakers who do and do not make the pin/pen discrimination. It would be hoped that the student would assimilate enough of the regular semantic and phonological features of the situation and become sensitized at the point of recognizing those discriminations which have been discussed and presumably learned in an intellectual fashion through the information components

of this competency sequence. A second method of developing this skill, and one more sure of success, would be to bring into the lecture or similar classroom presentation a short-term demonstration on records, tapes or other simulation means for the student to observe real people doing the kinds of things he has just learned about in an informational sense. Such a procedure is non-participatory and suffers from the decided lack of feedback provided to the student and to those in charge of the learning sequences. Thus evaluation of his progress and acquisition of the competence in question is left in doubt. A third way of providing for the above-mentioned skill development would be through the combination of participation, simulation and repetition. This could be done by means of a few one-half hour to one hour sessions with taped sample material with children reading and exhibiting the particular discrimination or lack of it. Under such conditions the student would be expected to first identify the discrimination or its non-existence, then to locate it in successively more complex samples of children reading aloud and finally to produce the discrimination or lack of it in appropriate context for recordings to be presented to other students and thereby tested in a mutual learning situation. A third alternative offers a decided advantage over the other two in that a built-in evaluation and validation process exists in the instructional context. Carefully designed materials of this

sort will allow the student to proceed step by step without undue frustration but will not allow him to move to more complex materials and other problems in the multitude of auditory acuity skills until he has demonstrated his successful performance at the earlier level.

The student must also in this approach have adequate opportunities for the direct application of the skill being developed. Otherwise the skill (e.g., the auditory acuity) if not used quickly becomes non-functional, to be revived only with considerable effort. There also seem to be some problems with the transfer of relatively complex skills unless they are internalized through actual application within reasonably natural settings. Such applications can be provided for in several ways, the most common of which is through the immersion of the prospective teacher in any situation where children are present. The principal feature of this approach is that we hope a fortuitous co-occurrance of events will result in the teacher-in-training having contact with students exhibiting the right combinations of language patterns to provide him with practice in recognizing and functioning with the particular auditory acuity skills learned through the information and skill development sections mentioned above. This procedure is by far the most common and by far the least productive in terms of the assurances we have that students will in fact learn those things we would like them to learn. We place heavy dependence upon the mutual resilience of both student-

teachers and children to make the best of the situation and achieve certain desirable learnings, though we frequently are left wondering just what has been learned. A second approach to providing for skill applications is to locate a likely situation where conditions may exist that will be conducive to the development of the particular skill in question. For example, we may search out a classroom where there is a high percentage of students who exhibit a particular English language variation and we direct our students to that classroom in hopes that they will locate an appropriate student to listen to while reading at some indefinite point in time. The critical factor here is the lack of precision in the time frame control. Even if there is a fairly high probability that the student will be exposed to desired real-world events, we have no assurance that such exposure will occur prior to the time when any irretrievable deterioration of the skill development has set in for the prospective teacher. This gives rise to the attempts to develop somewhat more idealized controlled situations within the essentially uncontrollable realities of the classrooms and children's interaction in reading. If we could, we would try to place a preservice teacher in a classroom at a time when the common understanding of the participants is that certain events should occur in the training sequences on a specific day or days. In actual practice this may not be as imprecise a process as it first appears to be. A cooperative classroom teacher might well be able to accommodate

to having a student come on a specific day and listen to one of a small group of children reading from an agreed-upon selection of materials, with a tape recorder in close attendance for the student to refer back and use to carry out certain other assignments and exercises following the actual classroom contact. Followup on later stages of the skill application would include provision by the same classroom teacher for the student teacher to return and work with the same students for short periods of time on specific language production exercises.

This may sound quite different from the traditional student teaching which follows rather more the immersion model mentioned earlier. Such skill applications in the vertical organization of competency development programs need not, however, exclude the more traditional long-term contacts such as found in student teaching and internship programs. There may be needs for such extended semi-realistic contact with classroom life because first, we can't anticipate everything that a student teacher needs to know. Secondly, we have reasonable evidence that there is a considerable need for individual teachers to have a chance to integrate many of their clusters of skills and techniques in a reasonable naturalistic setting, perhaps as much as a feature of their developing personality and style as a teacher as it is the acquisition and attainment of specific individual competencies.

You may ask now how all of the discussion to this point is related to the problem of validation in competency-based preservice reading education programs? The integrated time frame model proposed above with elements of (a) information, (b) skill development, and (c) application is first a move to isolate some of the components of competency development although not necessarily the components of the competencies themselves. If then the competency can be thus identified in terms of what leads to its development, the influence of that competency, its weight, co-appearance and by interpretation its value on the basis of studies in an entire teacher education program can be carried out through the manipulation of the various elements or clusters of elements within various types of research designs. Thus, in rather simple, terms the competency development model suggested above is one which specifies what we think we are doing to preservice teachers in a rather elaborate fashion. By extension it also says a great deal about what we think we will have them able to do by the time we carry them through such sets of experiences in a reading education program of this sort.

For purposes of construct validity or the internal consistency of the program such an evaluation process must be followed in order to answer the questions "are we accomplishing what we set out to accomplish?" and, "do we know what we did to accomplish such results?"

The validation of the competencies is another related question but one that cannot be ignored. It is all very well to be able to say that we are doing what we said we would do in the way we said we would do it, but is all this going to make any difference? Specifically we need to ask how and on what basis we select competencies for preservice teachers to acquire. In general the trends toward competency-based teacher education have emerged from a complex interaction of political, psychological and educational forces. Almost all programs of this type have some mechanisms for choosing performance criteria, and many model programs appear to have relied on the common mechanisms of inference from prior experience in teaching education programs as well as in a few instances on descriptive studies of classroom behavior when choosing the competencies to be included in the teacher education program.

Studies of teacher behavior, however, have not provided sound and clear indications of the performance variables which are most likely to be employed by teachers in successful ways and, by extension, need to be emulated by teachers in training.

> "No single specific observable teacher act has yet to be found where frequency or percentage of occurrence invariably and significantly correlated with student achievement. (Flanders, 1969)"

Using difference descriptive systems, investigators have concluded that teacher effectiveness does not depend on subject matter and the teacher time is most often spent in responding to incidents in classrooms with little evidence that a logical strategy of

presentation and organization has preceeded their behavior at this point.

Other studies have attempted to identify the common characteristics of highly rated teachers, however such studies have produced only undifferentiated categories rather than specific contributory competencies in teacher effectiveness. There are even a number of quite contradictory pronouncements from various sources based upon apparently sound evidence or different interpretations of the same evidence.

> "One unfortunate consequence of the lack of substantial research on the relationship of behavior and student growth is the paradox of different institutions training teachers in opposite performance criteria. Thus, the Far West Regional Laboratory uses Minicourse I to train teachers to repeat student answers less often, while the Northwest Regional Laboratory has a training program in Flanders Interaction Analysis which lists more teacher repetition of student answers as one measure of the preferred "indirect teaching". (Rosenshine and Furst, 1971)"

Perhaps one of the best sources of variables for teacher competencies are the process-product studies by Mitzel and Rosenshine. Such studies have focused on naturally occurring teacher behaviors and have been largely correlational as a result. However, somewhat more precisely defined categories of teacher behavior which have a strong correlational pupil achievement have emerged from such studies and it seems obvious that the work of Rosenshine and others may offer some eventual solutions for our problems of choice in teacher competence.

To be realistic, naturally, we must accept that teacher competencies in reading are frequently chosen for quite consistent and

effective reasons when we consider the political and educational conditions under which they are developed. For example, Spanish language competence is a highly desired or even mandatory feature for teacher education programs in reading in certain areas of the country. Elsewhere the specific competence of familiarity and ease with a particular reading approach, program, or set of materials may be dictated by the administrative and community concerns in some teacher education locations. In other situations competencies for reading teachers at various levels have been defined and chosen in reference to consensus, perhaps then because that is the way we have decided many of the critical issues in reading and education in the past.

The trend of the information discussed thus far in this presentation leads to the conclusion that teaching competence in reading should be defined in terms of pupil performance in reading, even though we may not at this time be able to clearly establish such connections. The ususal way to attempt to establish this connection between teacher and student behaviors is through the medium of standardized and/or other tests. Of course the criticisms of tests of this kind have been noised about with at least partly justified charges of bias and unfairness toward certain groups of students. In terms of the present argument the global character of most test scores renders them largely inappropriate as descriptions of the discrete types of

learning in reading which can be used for the assessment of teacher competency and performance.

The alternative to standardized tests, namely, criterion-referenced test materials and various individualized measures of reading performance have certain other drawbacks as measures of specific teacher competence. They risk vagueness of reference and in all cases require considerable investments of time for design and/or administration. Classroom observations with or without a scale have frequently been used in the research literature but offer severe limitations in teacher education programs because of the sizeable requirements for time to administer them and interpret them.

With such shortcomings, difficulties with techniques, and partial information, how are we to proceed? The arguments reviewed to this point as well as other information and research suggest there may be some orderly ways of proceeding in the solution of this problem in a preservice reading education program. I present the following not as answers to the many questions raised here but simply as what appears to be the most reasonable approach we have arrived at in our dealings with the validation problem in a competency-based preservice reading education program currently being developed at Northwestern University under a Right to Read program demonstration grant.

1. Competency categories in reading are developed as hypotheses chosen from general categories of information within the research literature, conventions for reading instruction, theories, personal prejudices and identified needs (political, social, and personal) of those involved in the process.
2. Each competency category must be subject to exhaustive analysis, specification and description to derive tight definitions of competencies that can be considered as research hypotheses and thereby subjected to certain types of proof, statistical and logical.
3. We assume the minimal obligation to validate the acquisition of every competency within the reading program plan as described above.
4. Each hypothetical statement of a teacher competency generates in turn a corrollary hypothesis relating to a specific aspect of children's reading performance. In other words, each and every teacher competency must have some identifiable and analyzable relationship to children's reading competencies.

   We might note at this point the argument presented by Fred MacDonald and others that competencies as listed behaviors may be inadequate, that such listings may imply independence and lack of logical or actual relationships. It may be more realistic to expect behaviors

to cluster for both the teacher and the learner and between teachers and learners such identifiable discrete competencies may be useful for terms of analyses; they may, in fact, never exist entirely in isolation from one another and the supposed effects of these reading instructional competencies upon children's reading performance competencies. MacDonald does suggest that the basic units of teaching and learning performance may be more likely found in these clusters of behaviors we define as competencies on both sides of the reading/learning situation.

5. We assume that if we are dealing with performance variables in any fashion the basic tool of study is an observation in all areas of performance from study to classroom. We are also investigating certain of the instruments being developed by the Stanford Research Institute as possible observation measures to use in the program such as described here.

6. We also assume the use of student performance measures that are consistent with the notion of reading performance and hypotheses. Specifically we are using both criterion validations and subscore, subtest, and item analyses of various standard instruments in reading. In terms of research design we are applying varying exposures of our preservice reading teachers to the program

components. The computer-based management system we employ in this program makes it possible to collect discrete information and profiles of behavior for individual students within the competency system and its various levels of application and among the varying degrees of complexity of information and skill development and application.

7. We contemplate the intensive use of several types of factorial design and the techniques of systematic sacrifice of certain combinations of treatments for the purpose of identifying main effects and interrelationships of elements within the program design.

8. The program will also impart exploratory data analysis techniques as interim procedures for generating additional research hypotheses within the program. These will include such techniques as plotting and simulations of interactive effects of partial data collected and integrated into the information system we are using.

9. The generation of new and revised hypotheses will be a continuing possibility in this project and following its official completion under Right to Read funding, given the very thorough and automatic nature of the data collection procedures we are using. For this reason we anticipate that the concept of competency clusters and interactions among competencies of teachers and children can be carried on in an algorithmic process that may lead

to a procedure that is as much a continuing process of individualizing the reading instruction at our institution as it is one of unending research in the teaching of reading.

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